

WHAT IS CLAIMED IS:

1. A substrate alignment apparatus which aligns and fixes a substrate on a substrate stage, comprising:

5 a chucking pad fixed on the substrate stage to chuck and fix a substrate;

a moving unit which moves the substrate with respect to the substrate stage such that a mark on the substrate stage and a mark on the substrate coincide with each other; and

10 a determination unit which manages a relative position between said chucking pad and the substrate after movement by said moving unit and determines whether said chucking pad can normally chuck the substrate.

15 2. The apparatus according to claim 1, wherein said moving unit has:

a first unit which aligns the substrate with reference to an outer shape of the substrate; and

20 a second unit which detects the mark drawn on the substrate and moves the substrate by a shift from the mark on the substrate stage, and

said determination unit manages the relative position on the basis of an amount by which the second unit moves the substrate.

25 3. The apparatus according to claim 2, wherein the first unit is arranged on a stage separate from the substrate stage, and the second unit is arranged on the

substrate stage.

4. The apparatus according to claim 2, wherein the first and second units are arranged on a stage separate from the substrate stage.

5 5. The apparatus according to claim 2, wherein if said determination unit determines that said chucking pad cannot normally chuck the substrate, the amount by which the second unit moves the substrate is limited to a value within a range which enables said chucking pad
10 to normally chuck the substrate.

6. The apparatus according to claim 3, wherein if said determination unit determines that said chucking pad cannot normally chuck the substrate, alignment of the substrate is stopped.

15 7. The apparatus according to claim 4, wherein if said determination unit determines that said chucking pad cannot normally chuck the substrate, transportation of the substrate to the substrate stage is stopped.

8. A substrate alignment method of aligning and
20 fixing a substrate on a substrate stage by using a chucking pad fixed on the substrate stage to chuck and fix a substrate, comprising:

a moving step of moving the substrate with respect to the substrate stage such that a mark on the
25 substrate stage and a mark on the substrate coincide with each other; and

a determination step of managing a relative

position between the chucking pad and the substrate after movement in the moving step and determining whether the chucking pad can normally chuck the substrate.

- 5 9. The method according to claim 8, wherein the moving step has:

 a first step of aligning the substrate on the basis of an outer shape of the substrate; and

- a second step of detecting the mark drawn on the
10 substrate and moving the substrate by a shift from the mark on the substrate stage, and

 in the determination step, the relative position is managed on the basis of a moving amount in the second step.

- 15 10. The method according to claim 9, wherein the first step is performed on a stage separate from the substrate stage, and the second step is performed on the substrate stage.

11. The method according to claim 9, wherein the
20 first and second steps are performed on a stage separate from the substrate stage.

12. The method according to claim 9, wherein if it is determined in the determination step that the chucking pad cannot normally chuck the substrate, the moving
25 amount in the second step is limited to a value within a range which enables the chucking pad to normally chuck the substrate.

13. The method according to claim 10, wherein if it is determined in the determination step that the chucking pad cannot normally chuck the substrate, alignment of the substrate is stopped.

5 14. The method according to claim 11, wherein it is determined in the determination step that the chucking pad cannot normally chuck the substrate, transportation of the substrate to the substrate stage is stopped.

15. An exposure apparatus wherein a reticle is
10 aligned by a substrate alignment apparatus as defined in claim 1.